

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. 98-10
FOR THE
CITY OF ESCONDIDO
HALE AVENUE RESOURCE RECOVERY FACILITY
SAN DIEGO COUNTY

A. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored waste stream. All samples shall be taken at the monitoring points specified in this Order and, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall be subject to approval of the Regional Board Executive Officer (hereinafter Executive Officer), and the USEPA, Water Management Division Director (hereinafter Director) and shall not be changed without notification to and the approval of the Executive Officer and Director.
2. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measure flows with a maximum deviation of less than ± 5 percent from true discharge rates throughout the range of expected discharge volumes.
3. All monitoring instruments and devices which are used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices. Annually, the discharger shall submit to the Executive Officer a written statement signed by a registered professional engineer certifying that all flow measurement devices have been calibrated and will reliably achieve the accuracy required by Monitoring and Reporting Provision A.2.
4. Monitoring must be conducted according to United States Environmental Protection Agency or California Department of Health Services approved test procedures as described in the current Title 40, Code of Federal Regulations (CFR), Part 136 or 261, or the current California Code of

Regulations, Title 22, Article 11, as appropriate, unless other test procedures have been specified in this Monitoring and Reporting Program.

5. All analytical data shall be reported uncensored with method detection limits and either practical quantitation levels or limits of quantitation identified. Acceptance of data should be based on demonstrated laboratory performance.
6. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Executive Officer or in this Order.
7. If only one measurement is made during the time period associated with a discharge specification, effluent limitation, or receiving water limit (e.g., 30-day average), that single measurement shall be used to determine compliance with the discharge specification, effluent limitation, or receiving water limitation for the entire time period.
8. A grab sample is an individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes.
9. A composite sample is defined as a combination of at least 100 milliliters collected at periodic intervals during the operating hours of a facility over a 24-hour period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.
10. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 MPN/100 milliliter. The detection method used for each analysis shall be reported with the results of the analysis.
11. The discharger shall report all instances of noncompliance not reported under Reporting Requirement F.11 of Order No. 98-10 at the time monitoring reports are submitted. The reports shall contain the information listed Reporting Requirement F.11.a.
12. The monitoring reports shall be signed by an authorized person as required by Reporting Requirements No. F.8.
13. Detection methods used for coliforms (total and fecal) shall be those presented in the most recent edition of Standard Methods for the Examination of Water and Wastewater or any improved method approved

by the Executive Officer.

14. Effluent analysis of metals, except chromium VI, shall be conducted using the total recoverable method. For chromium VI, the dissolved method shall be used as specified under 40 CFR 136.
15. Receiving water monitoring requirements for this monitoring and reporting program shall include, as a minimum, the following information:
 - a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, stream flow, time of sampling, etc.).
 - b. A description of sampling stations, including characteristics unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, etc.).
 - c. A description of the sample collection and preservation procedures used in the survey.
 - d. A description of the specific method used for laboratory analysis.
 - e. An in-depth discussion of the results of the survey. The discussion shall compare data from the reference stations(s) with data from the stations located in the area of the discharge. All tabulations and computations shall be explained.
16. The discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analysis. An annual report shall be submitted by January 30 of each year which summarize the QA activities for the previous year. Duplicate chemical analysis must be conducted on a minimum of ten percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. The discharge should have a success rate equal to or greater than 80 percent.
17. Revisions to this Monitoring and Reporting Program may be made by the Executive Officer, as directed by the Regional Board, at any time during the term of Order No. 98-10, and may include a reduction or increase in the number of parameters to be monitored, the frequency of monitoring, or the number and size of samples taken.
18. Monitoring results shall be reported at intervals and in a manner specified in Order No. 98-10 or in this monitoring and reporting program. Monitoring reports shall be submitted to the Regional Board and to EPA Region 9 according to the following schedule:

| Monitoring Frequency | Reporting Period | Report Due |
|--|---------------------------------------|---|
| Continuous during discharge event, Daily during discharge event, Weekly during discharge event, Once during discharge event | All | By the last day of the following month |
| Quarterly | February May August November | March 30 July 30 September 30 January 30 |
| Annually | January-December | January 30 |

B. INFLUENT MONITORING

The sampling station shall be located upstream of any in-plant return flows and where a representative sample of the influent to the treatment plant can be obtained. The date and time of sampling (as appropriate) shall be reported with the analytical values determined. The following shall constitute the influent monitoring program:

| Constituent | Units | Type of Sample | Minimum Frequency |
|--------------------------|-------|-----------------|--------------------------|
| CBOD ₅ @ 20°C | mg/L | 24-hr composite | Once per discharge event |
| Total Suspended Solids | mg/L | 24-hr composite | Once per discharge event |

C EFFLUENT MONITORING

1. Sample stations shall be established at the point of discharge and shall be located where representative samples of that effluent can be obtained.
2. The date and time of sampling (as appropriate) shall be reported with the analytical values determined.
3. The discharge to Escondido Creek from the HARRF shall be monitored for the following constituents daily during each discharge:

| Constituent | Units | Type of Sample |
|--------------------------|-------------------------|-----------------------|
| Flow | Million gallons per day | Recorder/Totalizer |
| Turbidity | NTU | Recorder |
| pH | pH Units | Grab |
| Total Suspended Solids | mg/L | 24-hour Composite |
| CBOD ₅ @ 20°C | mg/L | 24-hour Composite |
| Total Coliform | MPN/100 mL | Grab |
| Fecal Coliform | MPN/100 mL | Grab |
| Enterococci | Colonies/100 mL | Grab |
| E. Coli | Colonies/100 mL | Grab |

The discharger shall compare daily influent total suspended solids and CBOD₅ values with the corresponding daily effluent values to determine and report percent removal.

4. The discharge to Escondido Creek from the HARRF shall be monitored for the following constituents once a year during the first discharge of the year*:

| Constituent | Units | Type of Sample |
|--|--------------|-----------------------|
| Nitrogen (total nitrogen, organic nitrogen, nitrate, nitrite, ammonia) | mg/L | 24-hr composite |
| Phosphorus (total phosphorus, orthophosphate phosphorus) | mg/L | 24-hr composite |
| Total Dissolved Solids | mg/L | 24-hr composite |
| Chloride | mg/L | 24-hr composite |
| Sulfate | mg/L | 24-hr composite |
| Manganese | mg/L | 24-hr composite |
| Constituent | Units | Type of Sample |
| Boron | mg/L | 24-hr composite |
| Fluoride | mg/L | 24-hr composite |

| | | |
|------|------|-----------------|
| Iron | mg/L | 24-hr composite |
| MBAS | mg/L | 24-hr composite |

- * The discharger shall review the monitoring data collected in compliance with Section IV. Effluent Monitoring of *Technical Change Order No. 1 to Monitoring and Reporting Program No. 94-104 for the City of Escondido, Hale Avenue Resource Recovery Facility Discharge Through the San Elijo Ocean Outfall*, to determine if the effluent values comply with the effluent limitations contained the Discharge Specification B.2.b of Order No. 98-10. For those constituents that the effluent value exceeds the effluent limitations contained in this Order, the discharger shall monitor the first three discharges to Escondido Creek. If it is determined that the effluent complies with the effluent limitations contained in this Order, no further sampling shall be required for those constituents for the life of this permit.

5. The discharge to Escondido Creek from the HARRF shall be monitored for the following constituents once a year during the first discharge of the year*:

| Constituent | Units | Type of Sample |
|----------------------|-------|-----------------|
| Arsenic | mg/L | 24-hr composite |
| Antimony | mg/L | 24-hr composite |
| Barium | mg/L | 24-hr composite |
| Beryllium | mg/L | 24-hr composite |
| Cadmium | mg/L | 24-hr composite |
| Chromium (Total) | mg/L | 24-hr composite |
| Cobalt | mg/L | 24-hr composite |
| Copper | mg/L | 24-hr composite |
| Lead | mg/L | 24-hr composite |
| Mercury | mg/L | 24-hr composite |
| Molybdenum | mg/L | 24-hr composite |
| Nickel | mg/L | 24-hr composite |
| Selenium | mg/L | 24-hr composite |
| Silver | mg/L | 24-hr composite |
| Constituent | Units | Type of Sample |
| Thallium | mg/L | 24-hr composite |
| Vanadium | mg/L | 24-hr composite |
| Zinc | mg/L | 24-hr composite |
| Phenolic compounds** | -- | 24-hr composite |

| | | |
|---------------------------|----|-----------------|
| Inorganic chemicals** | -- | 24-hr composite |
| EPA toxic pollutants **** | -- | 24-hr composite |
| Organic chemicals** | -- | 24-hr composite |
| Radionuclides** | -- | 24-hr composite |

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** See Attachment B of Order No. 98-10.

*** See Attachment C of Order No. 98-10.

D. BIOMONITORING

1. Chronic Toxicity Monitoring

Chronic toxicity testing of 24-hour composite samples of one hundred percent (100%) effluent, a control containing no effluent, and a downstream sample immediately below the mixing zone shall be conducted during the first discharge event of each year in accordance with “*Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*” (Second Edition, EPA/600/4-89/001, March, 1989 or subsequent editions) and “*Supplement to Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*” (Revision 1, EPA/600/4-89/001a, September, 1989), using the Fathead Minnow larvae (*Pimephales promelas*), Water flea (*Ceriodaphnia dubia*), and Green alga, (*Selenastrum capricornutum*). If after four samplings, one of the three species is determined to be significantly more sensitive to both the effluent and the receiving water samples, the Executive Officer may permit future testing to be reduced to only the more

sensitive species.

2. In the event that recommended species is/are not available or the prescribed tests are not successful due to no fault of the discharger, other species/tests may be substituted with the prior approval of the Regional Board Executive Officer.
3. A quality assurance/quality control program shall be instituted for independent verification of the results generated by the effluent toxicity monitoring program. The discharger shall split samples with an independent laboratory for conducting tests specified under Item No. 1 above. Prior approval of the Executive Officer shall be obtained for the selection of the independent laboratory. Results from the independent laboratory shall be submitted to the Regional Board and the discharger for evaluation.
4. Toxic effects will be demonstrated if there is a statistically significant difference in response between the control and test organisms for any of the tests, but lack of an expected dose-response relationship should be noted whenever it occurs.
5. The discharger shall increase the frequency of chronic toxicity testing whenever the chronic toxicity of the undiluted effluent exceeds 1.0 TU_c. The first test under the accelerated schedule shall be conducted during the next discharge event after the test result which exceeds 1.0 TU_c, and testing shall be conducted once during every discharge event thereafter. The discharger may resume the regular test schedule when the result of a chronic toxicity less than 1.0 TU_c, or when the discharger has satisfactorily completed the toxicity reduction requirements and provisions specified in Section C.3 of this Order.
6. Tests shall be repeated whenever, in any test, more than 10% of the control organisms die within 96 hours, or more than 20% of the control organisms die during the duration of the test. The discharger shall review the test acceptability criteria in accordance with the EPA test protocols, EPA/600/4-89/001.
7. The results of the toxicity testing program shall be summarized in the monitoring report and shall be submitted to the Executive Officer within 30 days of the completion of all the tests. The report shall include, for the chronic toxicity tests, the no observed effect level (NOEL) shall be reported and converted to toxic units:

$$TU_c = 100/NOEL$$

The NOEL may be derived using the IC_{25} (effluent concentration at which a 25-percent reduction in a biological measurement occurs) statistical methods in accordance with the Technical Support Document (EPA/505/2-90/001; March 1991).

8. Additionally, the effect of the effluent stream on the growth, reproduction, and survival rate of each test species shall be discussed.
9. Any other statistically significant difference in response between the control and test organisms shall be reported.
10. From the annual toxicity testing results, the most sensitive test organisms and the most sensitive test shall be determined and reported.
11. Any other significant finding related to the toxicity testing program shall be included in the final report.
12. After analyzing the data generated from the toxicity testing program, this Order may be revised to include revised toxicity testing requirements and/or effluent limitations.

E. BASELINE AND RECEIVING WATER (SURFACE WATER) MONITORING

1. Receiving water stations shall be established at the following locations:

| Station Number | Station Location |
|----------------|---|
| 907 | Escondido Creek @ just upstream of the La Bajada bridge |
| 910 | Escondido Creek @ Elfin Forest Trailer Park at the inlet side of the bridge |
| Station Number | Station Location |
| 911 | Escondido Creek @ Elfin Forest Recreation Park at the inlet side of the foot bridge |
| 912 | Escondido Creek @ Country Club Drive & Harmony Grove Road upstream of bridge |
| 913 | Escondido Creek @ the granite yard upstream of bridge |

916

Escondido Creek @ downstream side of
Harmony Grove bridge

2. A permanent stream gaging station shall be established in accordance with standard practices of the U.S. Geological Survey at a location at or near Station 916. Measurements shall be recorded by a method approved by the Regional Board Executive Officer.
3. Stream flow measurements at Stations 907, 910, 911, 912 and 913 shall be conducted using a velocity-area method approved by the Regional Board Executive Officer.
4. Baseline monitoring of the receiving water shall be conducted by collecting grab samples, measuring flow and temperature and making visual observations at Stations 907, 910, 911, 912, 913 and 916 four times per year (during February, May, August, and November) on days when no discharge from the HARRF to Escondido Creek occurs. The baseline monitoring program shall commence in November, 1998.
5. Assessment monitoring of the receiving water shall be conducted by collecting grab samples, measuring flow and temperature and making visual observations at Stations 907, 912, 911, 912, 913 and 916 on all days that a discharge from the HARRF to Escondido Creek occurs.
6. Grab samples of the receiving water shall be analyzed for the following constituents:

| Constituent | Units |
|---|----------|
| pH | pH Units |
| Total Suspended Solids | mg/L |
| Volatile Suspended Solids | mg/L |
| Total Dissolved Solids | mg/L |
| Nitrogen series (Nitrate, Nitrite, Ammonia and Total Kjeldahl Nitrogen) | mg/L |

| | |
|--|------|
| Phosphorus series (Total Phosphate and Orthophosphate) | mg/L |
|--|------|

Ordered by: _____
JOHN H. ROBERTUS
Executive Officer

September 9, 1998